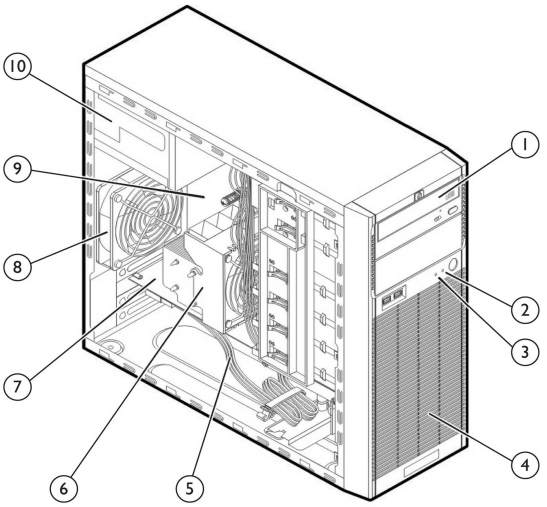
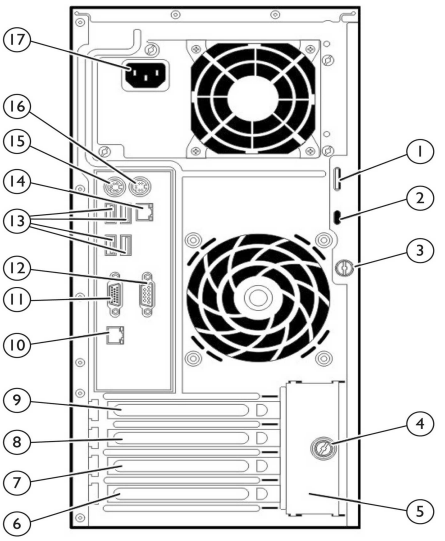
Overview





Front View:

1. DVD-ROM Drive
2. Power LED
3. Drive Activity LED
4. Front Bezel
5. SAS Cable (SAS model only)
6. CPU Heatsink
7. Hard Drive Controller Card (Optional)
8. System Fan
9. System Board
10. 300W Power Supply

Rear View:

1. Kensington lock notch
2. Cable lock provision notch
3. Access panel thumbscrew
4. Expansion slot cover retainer thumb screw
5. Expansion slot cover
6. Expansion slot 1
7. Expansion slot 2
8.. Expansion slot 3
9. Expansion slot 4
10. Management NIC port (RJ-45)
11. Video port
12. Serial port
13. USB ports
14. Embedded NIC port (RJ-45)
15. PS/2 keyboard port
16. PS/2 mouse port
17. Power supply cable socket

What's New

- Support for Intel® i3-550 FIO Processor Kit and Intel® Xeon® X3470 FIO Processor Kit
- Support for 2TB non hot-plug SATA drive

Standard Features

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

Processor One of the following depending on Model	Quad-Core Processors Intel® Xeon® X3470 (2.93GHz/4-core/8MB/95W, 1333, HT, Turbo 1/1/4/5) Processor NOTE: Available through Configure To Order only. See Factory Integration Models section for more details. Intel® Xeon® X3460 (2.80GHz/4-core/8MB/95W, 1333, HT, Turbo 1/1/4/5) Processor NOTE: Available through Configure To Order only. See Factory Integration Models section for more details. Intel® Xeon® X3450 (2.66GHz/4-core/8MB/95W, 1333, HT, Turbo 1/1/4/4) Processor Intel® Xeon® X3440 (2.53GHz/4-core/8MB/95W, 1333, HT, Turbo 1/1/2/3) Processor NOTE: Available through Configure To Order only. See Factory Integration Models section for more details. Intel® Xeon® X3430 (2.40GHz/4-core/8MB/95W, 1333, Turbo 1/1/2/3) Processor Dual-Core Processors Intel® Core™ i3-550 (3.20GHz/2-core/4MB/73W, 1333, HT) Processor NOTE: Available through Configure To Order only. See Factory Integration Models section for more details. Intel® Core™ i3-540 (3.06GHz/2-core/4MB/73W, 1333, HT) Processor NOTE: Available through Configure To Order only. See Factory Integration Models section for more details. Intel® Core™ i3-530 (2.93GHz/2-core/4MB/73W, 1333, HT) Processor NOTE: Available through Configure To Order only. See Factory Integration Models section for more details. Intel® Pentium® G6950 (2.80GHz/2-core/3MB/73W, 1066) Processor Intel® Celeron® G1101 (2.26GHz/2-core/2MB/73W, 1066) Processor NOTE: Available through Configure To Order only. See Factory Integration Models section for more details. NOTE: HT indicates that the processor model supports Intel® Hyper-Threading Technology. NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4, 3, 2, and 1 cores active. NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.
Cache Memory One of the following depending on Model	Integrated 8MB Intel® Smart Cache (Xeon 3400 series) Integrated 4MB Intel® Smart Cache (Core i3 series) Integrated 3MB Intel® Smart Cache (Pentium G6950) Integrated 2MB Intel® Smart Cache (Celeron G1101)
Chipset	Intel® 3420 chipset NOTE: For more information regarding Intel chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/

Standard Features

Memory Protection	ECC	
Memory	Type	PC3-10600E unbuffered DDR3 ECC up to 1333MHz
	DIMM Slots	Total 4 DIMM slots
	Standard	2GB (1x2GB) or 4GB (2x2GB)
	Maximum	16GB
Network Controller	Embedded NC107i PCI Express Gigabit Ethernet Server Adapter	

Expansion Slots #	Technology	Bus Width***	Connector Width	Bus Number*	Device Number**	Form Factor	Notes
1	PCIe	X1	X4	16	0	Full height, half length slot	Gen.1, NHP
2	PCI	32 bit	N/A	48	0	Full height & Full-length slot	33MHz/3.3V, NHP
3	PCIe	X4	X8	32	0	Full height & Full-length slot	Gen.1, NHP
4	PCIe	X16	X16	1	0	Full height & Full-length slot	Gen.2, NHP

*Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number.
** Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).
*** Indicates the number of physical electrical lanes running to a PCI-e connector.

Storage Controller	HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10) NOTE: Supports up to four (4) 3.0Gb/s SATA hard disk drives only NOTE: For set up instructions, please refer to the HP ProLiant ML100 series server user guide at: http://bizsupport1.austin.hp.com/bc/docs/support/SupportManual/c01708878/c01708878.pdf NOTE: For general information about HP Smart Array B110i SATA RAID Controller, please go to: http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/smartarrayb110i/index.html	
Internal Storage Devices	Optical Drive	HP Half-Height SATA DVD-ROM Optical Drive ships standard
	Hard Drives One of the following depending on Model	1x160 GB NHP SATA 7200 rpm Drive (Entry Model) 1x250 GB NHP SATA 7200 rpm Drive (Base Model) 2x250 GB NHP SATA 7200 rpm Drive (Performance Model)

Standard Features

Maximum Internal Storage One of the following depending on Model	**Non-Hot Plug SAS**	2.4TB (4 x 600GB) 3.5" SAS
	Non-Hot Plug SATA	8.0TB (4 x 2TB) 3.5" SATA

Interfaces	Parallel	0
	Serial	1
	Pointing Device (Mouse, PS2)	1
	Graphics	1
	Keyboard (PS2)	1
	USB 2.0 Ports	8 total (4 rear, 2 front panel, 2 internal (one for USB Tape connectivity))
	NOTE: 1 Dedicated USB port available for internal USB tape connectivity NOTE: Please see the following URL for additional information regarding USB support http://h18004.www1.hp.com/products/servers/platforms/usb-support.html	
	Network RJ-45 (Ethernet)	1(10/100/1000 bits/s)
	Remote Management	HP Lights-Out 100i

Industry Standard Compliance	ACPI V3.0a Compliant PCI 2.3 Compliant PXE Support WOL Support IPMI 2.0 compliance DCMI 1.0 Microsoft® Logo certifications Red Hat Enterprise Linux Logo certifications SUSE Linux Enterprise Server Logo certifications USB 2.0
Server Power Cords	6' country specific, lowline NEMA power cord.
Power Supply	300 Watts Non-Hot Plug, Non redundant Power Supply
System Fans	One (1) - Non-redundant system fan ships standard One (1) - Non-redundant CPU heatsink fan ships standard

Standard Features

Operating Systems and Virtualization Software Support for ProLiant Servers		Microsoft Windows Server Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: http://www.hp.com/go/supportos and our driver download page http://www.hp.com/support/ML110G6
Graphics		64MB shared supporting all display resolutions up to 1600 x 1200 16bpp @ 75Hz NOTE: 8MB is dedicated to video memory.
Form Factor		Micro ATX Tower (4U) NOTE: Rack mounting available via HP Tower to Rack Conversion Tray, Universal Kit. Please see the options section in this QuickSpecs.
Embedded Manageability	HP LO100i Advanced	HP LO100i Lights-Out 100 with Optional LO100i Advanced Licenses for Virtual KVM and Virtual Media. Features: • Embedded IPMI standard reporting • System event log access • Remote Serial console (serial redirection) • Browser, Telnet access • SMASH-CLP compliant • DCMI 1.0 compliant • IPMI 2.0 compliant • Secure Socket Layer Encryption • Secure Shell Encryption • Virtual media (Floppy, CD, DVD, ISO image, USB 2.0) with Advanced License • Virtual KVM with Advanced License NOTE: For more information, please refer to the QuickSpecs for the LO100i found at: www.hp.com/go/lo100

Standard Features

Core Infrastructure Management	HP ProLiant ML110 G6 Easy Set-up CD	The HP ProLiant Easy Set-up CD optimizes single-server setup, providing a simple way to deploy reliable and consistent server configurations. The HP ProLiant 100 Series Easy Set-up CD ships standard with the ML110 G6. It offers essential single-server deployment tools for HP ProLiant 100 series servers that simplify HP entry server setup, providing a repeatable way to deploy reliable and consistent single-server configurations. The HP ProLiant Easy Set-up CD assists with the OS installation process by preparing the system for installing "off-the-shelf" versions of Windows operating system software and automatically integrating optimized HP ProLiant server software drivers and utilities. Users enjoy the following benefits: • An easy-to-use, intuitive graphical interface that prepares your system for the OS installation process. • Integration of key server software drivers with assisted installation. • Dependency and validity checks to ensure that all supported ProLiant software can be installed. NOTE: For the latest information about other related software; please visit the HP Insight Control Management Software Portfolio at: http://h18004.www1.hp.com/products/servers/management/ and the HP ProLiant Easy Set-up CD Web site at: www.hp.com/servers/easysetup
Manageability		HP Integrated Lights-Out 100i with optional LO100i Advanced Licenses for Virtual KVM and Virtual Media Embedded Lights Out 100 IPMI 2.0 standard reporting Standard HP ProLiant ML110 G6 Easy Set-Up CD Array Configuration Utility (ACU) Array Diagnostics Utility (ADU) HP Insight Diagnostics HP Insight Management Agents and Insight Management Providers for Systems Insight Manager (SIM) Integration
Security		Power-on password Setup password Secure Sockets Layer (SSL) Secure Shell (SSH)

Standard Features

Warranty	This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. Hardware diagnostic support and repair are available for one year from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details. NOTE: Server Warranty includes 1 year parts, 1 year labor, 1-year on-site support with next business day response. (3-1-1 warranty offered in Brazil only). Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

Optional Features

Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and/or storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging and custom packaging HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers, as well as, the MSAxxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services for your specific server model please contact your sales representative or go to: http://www.hp.com/go/factory-express

HP Enterprise Configurator

The HP eConfigure Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance. http://www.hp.com/products/configurator.

Service and Support

For increased uptime, productivity and ROI - HP Care Pack packaged services for Servers

These days, you need to get the most out of your server investment - you can't afford not to. When you buy HP server products and solutions, it's also a good time to think about what levels of service and support you may need. To help take the worry out of deploying, designing, maintaining, and managing your environment, we've designed a portfolio of service options that are as: flexible, reliable and scalable as your server. Unlike server-only vendors, we take a holistic approach to your entire environment, bridging storage, servers, blades, software and network infrastructures with our HP Care Pack packaged services for Servers.

Protect your business beyond the warranty

When it comes to robustness and reliability, standard warranties on today's computing equipment have matured just as the technologies have matured. Good news on some fronts - but also a source of potential problems and subsequent consequences that come from depending on standard warranties alone. Standard warranty protects against product defects and some causes of downtime - but not the business. By using a standard approach to warranty uplifts, such as HP Care Pack Services, you can reduce downtime risks and be more certain of operational consistency for both mission-critical and standard business computing. Simply put, HP Care Pack Services normalize the warranty of combined products - helping you proactively guard against unplanned downtime.

Extending warranties with HP Care Pack Services

For cost-effective upgrading or extending your standard warranty, HP Care Pack Services offer a suite of standard reactive hardware and software support services that are sold separately, or combined as with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition, with HP Proactive Select we offer an innovative approach to service delivery that gives you the flexibility to acquire the specific proactive services you need today, then add services as your needs evolve. HP Proactive Select offers a broad set of technical or per-event type service options - including server, storage, and network, SAN device, and software, environment, installation and education services. Services that you can mix and match depending on your specific requirements, from preliminary planning and equipment delivery to installation, configuration, integration, and testing, through every level of ongoing support. Our HP Care Pack packaged services for Servers assures help when you need it most. And for many products, post-warranty HP Care Pack Services are available when your original warranty has expired.

HP Server Services: Offering reliability, flexibility and value - just like your storage

HP Server Services offers a full spectrum of customer care, from technology support to complex migrations to complete completely managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP Education offers flexible, comprehensive training on server networking and server software to help your IT staff get the most out of your investments. And HP Financial solutions extend innovative financing and asset management programs to cost-effective buy, manage and eventually retire your older equipment.

HP Server Services, the trusted business technology experts who manage your technology in action, because when technology works, business works. http://www.hp.com/services/servers, http://www.hp.com/services/storage

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

- Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.
- Customers purchasing from a commercial reseller can find HP Care Pack Services at: http://www.hp.com/go/lookuptool

NOTE: Care Pack Services availability may vary by product and country.

Recommended HP Care Pack Services for optimal satisfaction with your HP product

Recommended Services

3-Year HP Hardware Support Onsite Service, 4-hour response, 13x5

Delivering increased equipment availability and productivity with rapid-response onsite and remote support for your HP hardware, as well as selected multivendor equipment, this flexible HP Care Pack Service covers desktops, workstations, servers, storage systems, network equipment, and printing.

Choose 4-Hour Same Business Day Hardware Support when you need to:

- Extend your hardware warranty coverage with prompt service for key systems and devices
- Obtain easy-to-buy, easy-to-use onsite services
- Improve hardware performance and uptime
- Increase the return on your HP and multivendor hardware investments
- Enjoy consistent service coverage across geographically dispersed sites
- Optional Defective Media Retention Service

Service feature highlights

- Help improve or maintain system uptime
- Convenient onsite support
- Committed response time

http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE

3-Year HP Hardware Support Onsite Service, Next-day response (9x5)

HP ProLiant services: Our integrated service portfolio covers the entire solution lifecycle for x86 server environments - from installation and support through the design, deployment, and management of complex IT environments - so that you can confidently address any IT and business need.
HP Hardware Support Onsite Service provides high-quality remote assistance and onsite support for your covered hardware, helping you to improve product time.

Service feature highlights

- Help improve or maintain system uptime
- Convenient onsite support
- Reliable response time

http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE

HP ProLiant Server Hardware Installation

HP Installation Service provides for the basic installation of HP branded servers, workstations, desktop systems, notebook PCs, thin clients, storage devices, printers, networking, and software products. The Installation Service is part of a suite of HP deployment services that are designed to give you the peace of mind that comes from knowing your HP and HP-supported products have been installed by an HP specialist in accordance with the manufacturer's product documentation.

- Expedited installation, with all service prerequisites met before the installation is performed
- Installation in accordance with manufacturer's specifications, enhancing the supportability of your HP-installed hardware and software
- Service delivery at a mutually scheduled time
- Allows your IT resources to stay focused on their core tasks and priorities
- Availability of an HP service specialist to answer questions during the onsite delivery of this service

http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN

Optional HP Care Pack Services that will enhance your HP product experience

Optional Services

3-Year HP Hardware Support Onsite Service, 4-hour response, 24x7

As an alternative to our recommended support level, for customers who need same day response server level 24x7.

Provides high-quality remote assistance and onsite support for your covered hardware, helping you to improve product uptime.

Service benefits:

- Help improved system uptime
- Convenient onsite support
- Reliable response time
- Remote problem diagnosis and support
- Onsite hardware support
- Materials included
- Service-level options with different coverage windows and response times
- Work to completion
- Escalation management
- Access to electronic support information and services
- HP electronic remote monitoring and support solution (for eligible products only)

http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE

3-Year HP Hardware Support Onsite Call-to-Repair (CTR) Service - 24-hour CTR

As an alternative to our recommended support level, for customers who need committed call-to-repair for server hardware.

HP Hardware Support Onsite 24x7 24-Hour Call-to-Repair Service provides your IT manager access to a team of support specialists. They will quickly begin troubleshooting the system to help return the hardware to operating condition within a maximum of 24 hours from the initial service request.

HP is committed to repairing your hardware within a maximum of six hours. The benefits include:

- Improved system uptime
- Predictable repair times
- More effective IT resource planning
- Consistent level of hardware support across your multi-technology systems
- Optional defective media retention service

http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN.pdf

3-Year HP Hardware Support Onsite Call-to-Repair (CTR) Service - 6-hour CTR

As an alternative to our recommended support level, for customers who need committed call-to-repair for server hardware.

HP Hardware Support Onsite 24x7 6-Hour Call-to-Repair Service provides your IT manager access to a team of support specialists. They will quickly begin troubleshooting the system to help return the hardware to operating condition within a maximum of six hours from the initial service request.

HP is committed to repairing your hardware within a maximum of six hours. The benefits include:

- Improved system uptime
- Predictable repair times
- More effective IT resource planning
- Consistent level of hardware support across your multi-technology systems
- Optional defective media retention service

http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN.pdf

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eSupport

HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal
The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: http://www.hp.com/support

HP Insight Remote Support software delivers secure remote support for your HP Servers and Storage, 24 X 7, so you can spend less time solving problems and more time focused on your business. You can have your systems remotely monitored for hardware failure using secure technology that's been proven at thousands of companies around the world. In many cases, you can avoid problems before they occur.

Service and Support

Customer Technical Training	HP Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction. For a list of all our awards, please visit: http://h20219.www2.hp.com/services/cache/433028-0-0-225-121.htm
HP Services Awards	HP Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction. For a list of all our awards, please visit: http://h20219.www2.hp.com/services/cache/433028-0-0-225-121.htm
Additional Services Information	For more information about HP Care Pack Services for Servers, please visit: http://www.hp.com/services/servers To learn more on HP ProLiant servers and HP BladeSystem, please contact your HP sales representative or HP Authorized Channel Partner, or visit: www.hp.com/services/proliant or www.hp.com/services/bladesystem.

Pre-configured Models

SATA Models

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.
NOTE: Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
NOTE: HP does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
NOTE: If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.
NOTE: Not all models are available in all regions. Check with your local country HP offices for availability.
NOTE: HP NHP Internal SAS/SATA 4 port cable kit (487734-B21) is required when Smart Array Controller is ordered with a BTO configuration
NOTE: For general information about HP Smart Array B110i SATA RAID Controller, please visit:
http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/smartarrayb110i/index.html

Entry Model HP ProLiant ML110 G6 G6950 1P 2GB-U Non-hot Plug 160GB SATA LFF 300W PS Server 506666-xx1	Processor	(1) Intel® Pentium® processor G6950 (2.80GHz, 73W, 3MB, 1066)
	Cache Memory	3MB Intel® Smart Cache
	Memory	2GB (1x2GB) PC3-10600E DDR3 UB ECC NOTE: Total 4 DIMM slots.
	Network Controller	Embedded NC107i PCI Express Gigabit Ethernet Server Adapter
	Storage Controller	HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10) (4 ports for HDD)
	Hard Drive	1 x 160GB Non-hot-plug LFF SATA
	Internal Storage	8.0TB (4 x 2.0TB) Non-hot plug LFF SATA (Maximum)
	Optical Drive	HP Half-Height 16x SATA DVD-ROM
	Power Supply	300W Non-Hot Plug, Non-Redundant Power Supply
	Fans	One (1) - Non-redundant system fan ships standard One (1) - Non-redundant CPU heatsink fan ships standard
	Management	Integrated HP ProLiant 100 G6 Lights Out 100i Remote Management
	Form Factor	Micro ATX Tower (4U)
	Warranty	Server Warranty includes 1 year parts, 1 year labor, 1-year on-site support with next business day response. (3-1-1 warranty offered in Brazil only).

Pre-configured Models

Base Model		
HP ProLiant ML110 G6 X3430 1P 2GB-U Non-hot Plug 250GB SATA LFF 300W PS Base Svr 506667-xx1	Processor	(1) Intel® Xeon® processor X3430 (2.40GHz, 95W, 8MB, 1333, Turbo 1/1/2/3)
	Cache Memory	8MB Intel® Smart Cache
	Memory	2GB (1x2GB) PC3-10600E DDR3 UB ECC NOTE: Total 4 DIMM slots.
	Network Controller	Embedded NC107i PCI Express Gigabit Ethernet Server Adapter
	Storage Controller	HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10) (4 ports for HDD)
	Hard Drive	1 x 250GB Non-hot-plug LFF SATA
	Internal Storage	8.0TB (4 x 2.0TB) Non-hot plug LFF SATA (Maximum)
	Optical Drive	HP Half-Height 16x SATA DVD-ROM
	Power Supply	300W Non-Hot Plug, Non-Redundant Power Supply
	Fans	One (1) - Non-redundant system fan ships standard One (1) - Non-redundant CPU heatsink fan ships standard
	Management	Integrated HP ProLiant 100 G6 Lights Out 100i Remote Management
	Form Factor	Micro ATX Tower (4U)
	Warranty	Server Warranty includes 1 year parts, 1 year labor, 1-year on-site support with next business day response. (3-1-1 warranty offered in Brazil only).

Performance model		
HP ProLiant ML110 G6 X3450 1P 4GB-U Non-hot Plug 500GB SATA LFF 300W PS Server 506668-xx1	Processor	(1) Intel® Xeon® processor X3450 (2.66GHz, 95W, 8MB, 1333, HT, Turbo 1/1/4/4)
	Cache Memory	8MB Intel® Smart Cache
	Memory	4GB (2x2GB) PC3-10600E DDR3 UB ECC NOTE: Total 4 DIMM slots.
	Network Controller	Embedded NC107i PCI Express Gigabit Ethernet Server Adapter
	Storage Controller	HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10) (4 ports for HDD)
	Hard Drive	2 x 250GB Non-hot-plug LFF SATA
	Internal Storage	8.0TB (4 x 2.0TB) Non-hot plug LFF SATA (Maximum)
	Optical Drive	HP Half-Height 16x SATA DVD-ROM
	Power Supply	300W Non-Hot Plug, Non-Redundant Power Supply
	Fans	One (1) - Non-redundant system fan ships standard One (1) - Non-redundant CPU heatsink fan ships standard
	Management	Integrated HP ProLiant 100 G6 Lights Out 100i Remote Management
	Form Factor	Micro ATX Tower (4U)
	Warranty	Server Warranty includes 1 year parts, 1 year labor, 1-year on-site support with next business day response. (3-1-1 warranty offered in Brazil only).

Pre-configured Models

Country Code Key	xx=00	NA
	xx=01	Australia
	xx=03	UK
	xx=04	Germany
	xx=05	France
	xx=37	AP
	xx=42	Euro
	xx=AA	PRC (Excludes P/N 506666-xx1)

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.
NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.
NOTE: Configure-to-order (CTO) servers must start with a CTO Chassis.
NOTE: FIO indicates that this option is only available as a factory installable option.

Step 1: Base Configuration

HP Models	HP ProLiant ML110 G6 Configure-to-order Server	510078-B21
	Factory Integrated Models ship with:	
	Embedded NC107i PCI Express Gigabit Ethernet Server Adapter	
	Integrated HP ProLiant 100 G6 Lights Out 100i Remote Management	
	HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10), 4 ports for HDD NOTE: For set up instructions for HP Smart Array B110i SATA Controller please refer to the HP ProLiant ML100 series server user guide at: http://bizsupport1.austin.hp.com/bc/docs/support/SupportManual/c01708878/c01708878.pdf NOTE: For general information about HP Smart Array B110i SATA RAID Controller, please visit: http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/smartarrayb110i/index.html	
	Non hot-plug SAS/SATA 4 port cable	
	Easy set up CD	
	PCA	
	Power cord	
	Micro ATX Tower (4U)	

Step 2: Choose Required Options (only one of the following from each list unless otherwise noted)

HP Processors	**Quad-Core Processor**	
	HP ML110G6 Intel® Xeon® X3470 (2.93GHz/4-core/8MB/95W) FIO Processor Kit	622187-L21
	HP ML110 G6 Intel® Xeon® X3460 (2.80GHz/4-core/8MB/95W) FIO Processor Kit	578348-L21
	HP ML110 G6 Intel® Xeon® X3450 (2.66GHz/4-core/8MB/95W) FIO Processor Kit	578347-L21
	HP ML110 G6 Intel® Xeon® X3440 (2.53GHz/4-core/8MB/95W) FIO Processor Kit	578346-L21
	HP ML110 G6 Intel® Xeon® X3430 (2.40GHz/4-core/8MB/95W) FIO Processor Kit	578345-L21
	Dual-Core Processor	
	HP ML110G6 Intel® Xeon® i3-550 (3.20GHz/2-core/4MB/73W) FIO Processor Kit	622185-L21
	HP ML110 G6 Intel® Core™ i3-540 (3.06GHz/2-core/4MB/73W) FIO Processor Kit	578352-L21
	HP ML110 G6 Intel® Core™ i3-530 (2.93GHz/2-core/4MB/73W) FIO Processor Kit	578351-L21
	HP ML110 G6 Intel® Pentium® G6950 (2.80GHz/2-core/3MB/73W) FIO Processor Kit	578350-L21

	HP ML110 G6 Intel® Celeron G1101 (2.26GHz/2-core/2MB/73W) FIO Processor Kit	578349-L21
HP Memory	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool at: www.hp.com/go/ddr3memory-configurator.	
HP Optical Drives	HP Half-Height SATA DVD-ROM Optical Drive	447326-B21
	HP Half-Height SATA DVD-RW Optical Drive	447328-B21
HP Hard Drives	SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
	HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive	507774-B21
	HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive	507772-B21
	HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive	458941-B21
	SATA Non-Hot Plug LFF (3.5-inch) Entry (ETY) Drives	
	HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Entry 1yr Warranty Hard Drive	571232-B21
	HP 160GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Entry 1yr Warranty Hard Drive	458947-B21
	SAS Non-Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives NOTE: Support for SAS non-hot plug drives requires HP SAS/Smart Array Controller. See Step 3 below.	
	HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive	516830-B21
	HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive	516826-B21
	HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive	516824-B21

Configuration Information-Factory Integrated Models

HP Storage Controllers	SAS Controller	
	NOTE: Support for SAS hard drives/tape drive requires selection of a SAS controller.	
	NOTE: Support for hardware RAID requires selection of a SAS controller.	
	Smart Array P212 Controller	
	HP Smart Array P212/256 BBWC 1-ports Int/1-ports Ext PCIe x8 FIO SAS Controller	491191-B21

Step 3: Choose Additional Factory Integratable Options (only one of the following from each list unless otherwise noted)

HP USB and SD Options	HP ProLiant Server Mouse Carbon	AC105A
	HP ProLiant W2K Server Keyboard	AC110A

Step 4: Choose Additional Options for Factory Integration

NOTE: For additional "Core Options" and "Additional Options", please refer to the "Options" sections below.

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

HP Memory	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool at: www.hp.com/go/ddr3memory-configurator.	
HP Optical Drives	HP Half-Height SATA DVD-ROM Optical Drive	447326-B21
	HP Half-Height SATA DVD-RW Optical Drive	447328-B21
HP Hard Drives	NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, and firmware) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components. NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.	
	SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
	HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive	507774-B21
	HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive	507772-B21
	HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive	458941-B21
	SATA Non-Hot Plug LFF (3.5-inch) Entry (ETY) Drives	
	HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Entry 1yr Warranty Hard Drive	571232-B21
	HP 160GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Entry 1yr Warranty Hard Drive	458947-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html (Worldwide)	
	SAS Non-Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives NOTE: Support for SAS non-hot plug drives requires HP SAS/Smart Array Controller.	
	HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive	516830-B21
	HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive	516826-B21
	HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive	516824-B21

Core Options

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html (Worldwide)

HP Networking	HP NC112T PCI Express Gigabit Server Adapter	503746-B21
	HP NC360T PCI-E Dual Port Gigabit Server Adapter	412648-B21
	HP NC373T PCI-E Multifunction Gigabit Server Adapter	394791-B21
	HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs	

Additional Options

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

HP Entry-Level Server Management	HP Lights-Out 100i (LO100i) Advanced including 1yr 24x7 Support Single Server License NOTE: For additional License Kits please see the Lights-Out 100i QuickSpecs at: www.hp.com/go/lo100.	530521-B21
HP Security (TPM)	HP Trusted Platform Module Option NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. NOTE: For more information about TPM, please visit: www.hp.com/go/TPM NOTE: ProLiant OS pre-installed units will come with the partition required for TPM deployment. NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.	488069-B21
HP Storage Controllers	SAS Controllers NOTE: Support for SAS hard drives/tape drive requires selection of a SAS controller. NOTE: Support for hardware RAID requires selection of a SAS controller.	
	Smart Array P212 Controller	
	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462828-B21
	HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462834-B21
	Optional Upgrades	
	HP 256MB P-series Cache Upgrade	462968-B21
	HP 650 mAh P-Series Battery NOTE: Required to enable BBWC on the 256MB cache.	462969-B21
	HP Non-Hot Plug Internal SAS/SATA 4 Port Cable Kit NOTE: This cable will only be required when Smart Array Controller is ordered with a BTO configuration.	487734-B21
	HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Single Server License NOTE: This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customers will receive a license entitlement certificate via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HP Software Technical Support Services.	516471-B21

Additional Options

	NOTE: Please see the following QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13203_div/13203_div.html (Smart Array P212 Controller) http://h18000.www1.hp.com/products/quickspecs/13200_div/13200_div.html (Smart Array Advanced Pack)	
	SCSI HBA	
	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter NOTE: Supports SCSI Tapes only, no RAID support. NOTE: HBA is recommended for SCSI tape drive support. NOTE: Please see the following QuickSpecs for Technical Specifications and additional information: http://h18004.www1.hp.com/products/quickspecs/12566_div/12566_div.html (SC11Xe HBA)	412911-B21
HP Backup & Recovery Software	Data Protector Express	
	HP Data Protector Express V5.0 for 1 Server E-LTU	TC330AAE
	HP Data Protector Express V5.0 for 3 Servers E-LTU	TC331AAE
	HP Data Protector Express V5.0 for 10 Servers E-LTU	TC332AAE
	HP Basic Upgrade to Data Protector Express V5 for 1 Server E-LTU	TC333AAE
	NOTE: Only one of these Data Protector Express base products is required. To see available options: http://www.hp.com/go/dataprotectorexpress	
HP Tape Backup	NOTE: For the complete range of tape drives, autoloaders, libraries and media see: http://www.hp.com/go/tape. For hardware and software compatibility of HP tape backup products see: http://www.hp.com/go/connect.	
	HP StorageWorks DAT 320 USB Internal Tape Drive	AJ825A
	HP StorageWorks DAT 320 SAS Internal Tape Drive NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	AJ830A
	HP StorageWorks Ultrium 448 SAS Internal Drive NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	DW085A
	HP StorageWorks Ultrium 920 SAS Internal Tape Drive NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	EH847A
	HP StorageWorks 1/8 G2 Ultrium 920 SAS Autoloader NOTE: Requires HP 1U Tape Autoloader Rack-Mount Kit (AH166A) for rack installation. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	AH558A
	HP StorageWorks MSL2024 Ultrium 920 SAS Tape Library NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	AH559A

Additional Options

HP Disk Backup

NOTE: For the complete range of D2D Backup Systems see: http://www.hp.com/go/d2d. For the complete range of RDX drives and media see: http://www.hp.com/go/rdx. For hardware and software compatibility of HP disk backup products see: http://www.hp.com/go/connect.

HP D2D Backup Systems with Backup Data Deduplication

NOTE: These are network connected appliances with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.

HP StorageWorks D2D2502i Backup System NOTE: 1.5TB of usable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	EJ001B
HP StorageWorks D2D2504i Backup System NOTE: 3.0TB of usable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	EJ002B

USB Removable Media RDX Disk Backup Systems

HP StorageWorks RDX320 Internal Removable Disk Backup System NOTE: 320GB of disk capacity per data cartridge.	AJ767A
HP StorageWorks RDX500 Internal Removable Disk Backup System NOTE: 500GB of disk capacity per data cartridge.	AJ934A

HP Uninterruptible Power Systems

HP Tower UPS

HP R/T3000 G2 Uninterruptible Power System (UPS)

HP R/T3000 G2 2U L530 Low Voltage NA/JP Uninterruptible Power System	AF466A
HP R/T3000 G2 2U L620 High Voltage NA/JP Uninterruptible Power System	AF467A
HP R/T3000 G2 2U Detachable Cord High Voltage INTL Uninterruptible Power System	AF468A

NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/14058_div/14058_div.html (Worldwide)

HP R1500 G3 Uninterruptible Power Supply (UPS)

HP R1.5kVA G3 1U NA Uninterruptible Power System	AF469A
HP R1.5kVA G3 1U JP/TW Uninterruptible Power System	AF470A
HP R1.5kVA G3 1U INTL Uninterruptible Power System	AF471A

NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/14059_div/14059_div.html (Worldwide)

HP T1000 G3 UPS Models

HP T1000 G3 1000VA INTL Tower Uninterruptible Power System	AF449A
HP T1000 G3 1000VA NA Tower Uninterruptible Power System	AF448A
HP T1000J JP Uninterruptible Power System	AF457A

NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html (Worldwide)

HP T750 G2 UPS Models

HP T750 G2 750VA INTL Tower Uninterruptible Power System	AF447A
HP T750 G2 750VA NA Tower Uninterruptible Power System	AF446A
HP T750J JP Uninterruptible Power System	AF456A

NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13160_div/13160_div.html (Worldwide)

NOTE: For additional information regarding HP Uninterruptable Power Systems, please see the following URL: www.hp.com/go/rackandpower (Worldwide)
NOTE: For additional information on sizing your server, please reference: http://www.upssizer.com

NOTE: Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: www.hp.com/products/powercords.

HP Rack Series

HP Rack 10000 G2 Series (Graphite Metallic)

HP 10642 G2 Pallet Universal Rack	AF001A
HP 10642 G2 Shock Universal Rack	AF002A

NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed.

NOTE: Please see the Rack 10000 G2 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.html (Worldwide)

NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower (Worldwide)

NOTE: The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 G2 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.

CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment:

- Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 830 square inches (5,350 sq cm) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).
- Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm).

CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.

NOTE: HP ProLiant DL rack models have fixed rails which provide support for racks with round mounting holes and tool-free support for racks with square mounting holes (including Compaq/HP 7000, 9000, 10000 and HP series), with an adjustment

range of 26" - 36".
NOTE: Support for all 2 and 4 post Telco racks and threaded hole racks requires an additional option kit from Rack Solutions. The Rack Solutions brackets can be purchased at: www.hp.com/go/rackandpower.

HP Rack Options	**HP KVM Switches**	
	HP Server Console 0x2x8 Port Analog Switch	AF616A
	HP Server Console 0x2x16 Port Analog Switch	AF617A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/11834_div/11834_div.html (Worldwide)	
	HP Server Console Switch G2 with Virtual Media & CAC	
	HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software	AF618A
	HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software	AF619A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13475_div/13475_div.html (Worldwide)	
	HP IP Console Switch G2 with Virtual Media & CAC	
	HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software	AF620A
	HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software	AF621A
	HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software	AF622A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13474_div/13474_div.html (Worldwide)	
	HP Rack Options	
	HP Tower to Rack Conversion Tray Universal Kit	417705-B21

HP USB and SD Options	HP USB 2-Button Optical Scroll Mouse	DC172B
	HP USB 04 Standard Keyboard	DT528A#xxx
	NOTE: For the installation of Windows and other OS's, a floppy drive or the HP USB Floppy Drive Key may be required to complete driver installation. A standard USB drive key may not work to complete driver installation.	

Additional Options

HP Care Pack Services	Hardware Services Next Business Day On-Site Service	
	HP 3 year Next business day ProLiant ML110 Hardware Support	U4433E
	Hardware Services - 4-Hour On-site Service	
	HP 3 year 4 hour 13x5 ProLiant ML110 Hardware Support	U4434E
	HP 3 year 4 hour 24x7 ProLiant ML110 Hardware Support	U4435E
	Hardware Services 6-Hour Call to Repair On-Site Service	
	HP 3 year 6 hour 24x7 Call to Repair ProLiant ML110 Hardware Support	U4436E
	Hardware Installation	
	HP Install ProLiant ML110 Service	U4444E

NOTE: For more information, customer/resellers can contact: http://www.hp.com/services/carepack.

HP ProLiant ML110 G6 Models

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".

Standard Memory

SATA Models:
2GB or 4 GB of PC3-10600E DDR3 UDIMM running up to 1333MHz with memory kits installed.

Standard Memory with Optional Memory

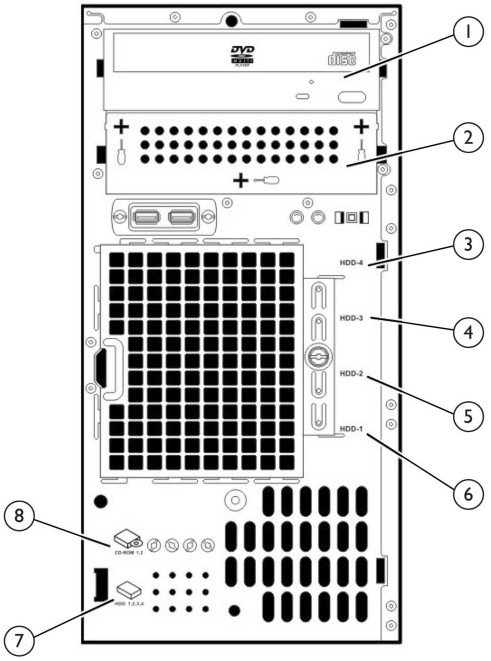
Up to 8GB of memory is available with the installation of standard and optional memory, 4x 2 GB PC3-10600E un-buffered ECC DDR3 SDRAM DIMM Memory kits.

NOTE: The below chart does not represent all possible memory configurations.
NOTE: For best performance, it is recommended that customer installs memory in identical pairs (Slots 1C and 3D are interleaving pair. Slots 2A and 4B are interleaving pair).

Memory		Slot			
		DIMM1C	DIMM2A	DIMM3D	DIMM4B
Standard (Entry Model)	2 GB	Empty	2 GB	Empty	Empty
Standard (Base Model)	2 GB	Empty	2 GB	Empty	Empty
Standard (Performance Model)	4 GB	Empty	2 GB	Empty	2 GB
Maximum	16 GB	4 GB	4 GB	4 GB	4 GB

Following are memory options available from HP:

HP Memory	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.	



1. 1st removable media drive
2. 2nd removable media drive
3. 4th SAS/SATA hard drive
4. 3rd SAS/SATA hard drive
5. 2nd SAS/SATA hard drive
6. 1st SAS/SATA hard drive
7. HDD spare screws
8. Removable media drive spare screws

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
DVD Drive	2	1 or 2	Integrated SATA
DVD-RW Drive	2	1 or 2	Integrated SATA

Storage

Hard Drives (SATA Models only)

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, and firmware) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
2TB 3G 7.2K 1TB 3G 7.2K 500GB 3G 7.2K	Up to 4	3,4,5,6	Smart Array B110i SATA RAID Controller (RAID 0/1/10) NOTE: Hardware RAID support requires purchase of HP Smart Array P212 Controller.

SATA Non-Hot Plug LFF (3.5-inch) Entry (ETY) Drives

	Quantity Supported	Position Supported	Controller
250GB 3G 7.2K 160GB 3G 7.2K	Up to 4	3,4,5,6	Smart Array B110i SATA RAID Controller (RAID 0/1/10) NOTE: Hardware RAID requires purchase of HP Smart Array P212 Controller.

Hard Drives (SAS Models only)

SAS Non-Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

NOTE: SAS non-hot plug drives require HP SAS/Smart Array Controller.

	Quantity Supported	Position Supported	Controller
600GB 6G 15K DP 450GB 6G 15K DP 300GB 6G 15K DP	Up to 4	3,4,5,6	Smart Array P212 Controller NOTE: Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details.

Maximum Storage Capacity - SATA/SAS Models

Internal	SATA	8.0TB (4 x 2TB)
	SAS	2.4TB (4 x 600GB)

Tape and Disk-Based Backup

NOTE: For the complete range of tape drives, autoloaders, libraries and media, including the internal fitting models, see: http://www.hp.com/go/tape. For the complete range of D2D Backup Systems see: http://www.hp.com/go/d2d. For the complete range of RDX drives and media see: http://www.hp.com/go/rdx. For hardware and software compatibility of HP disk and tape backup products see: http://www.hp.com/go/connect.

	Position	Recommended Controller	Part Number
HP SCSI Tape Drives LTO-1 Ultrium 232 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-3 Ultrium 960 LTO4 Ultrium 1760 LTO-4 Ultrium 1840 DAT 40 DAT 72 DAT 160	Internal or External	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter	412911-B21

HP SCSI Rack Mount Kits 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter	412911-B21
HP USB Tape Drives DAT 40 DAT 72 DAT 160 DAT 320	Internal or External	USB 2.0 Port	N/A
HP USB Rack Mount Kits 1U USB Rack-Mount Kit	External	USB 2.0 Port	N/A
HP SAS Tape Drives DAT 160 DAT 320 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-4 Ultrium 1760 LTO-4 Ultrium 1840 LTO-5 Ultrium 3000 LTO-5 Ultrium 3280	Internal or External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462828-B21
HP SAS Rack Mount Kits 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462828-B21
HP SCSI Tape Autoloaders DAT 72x10 Autoloader 1/8 G2 Autoloader	External	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter	412911-B21
HP SCSI Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000	External	HP StorageWorks U320e SCSI Dual Channel Host Bus Adapter	AH627A
HP SAS Tape Autoloaders and Libraries 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096	External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462828-B21

Storage

HP Fibre Channel Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000	External	Please consult the EBS connectivity matrix at: http://www.hp.com/go/ebs for connectivity information and the supported Fibre Channel HBAs shown in this QuickSpecs.	
HP USB RDX Removable Disk Backup System RDX160 RDX320 RDX500 RDX750	Internal or External	USB 2.0 port	N/A
HP D2D Backup Systems, iSCSI D2D2500i D2D4000i	External	Embedded Network Controller. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	
HP D2D Backup Systems, Fibre Channel D2D4000fc	External	Direct server attach is not supported, requires connection via SAN fabric. See: http://www.hp.com/go/connect	

Power Specifications

300 Watts Non-Hot Plug, Non redundant Power Supply

Part Number	445067-001
Operational Input Voltage Range (Vrms)	100 to 127 and 200 to 240 V auto ranging
Frequency Range (Nominal) (Hz)	50 to 60 Hz

Nominal Input Voltage (Vrms)	100	120	200	230	240
Max Rated Output Wattage Rating	300	300	300	300	300
Nominal Input Current (A rms)	5	5	2.5	2.5	2.5
Max Rated Input Wattage Rating (Watts)	400	N/A	N/A	400	N/A
Max. Rated VA (Volt-Amp)	400	N/A	N/A	400	N/A
Efficiency (%)	80%	80%	80%	80%	80%
Power Factor	0.9	N/A	N/A	0.9	N/A
Leakage Current (mA)	3.5mA	N/A	N/A	N/A	N/A
Maximum Inrush Current (A peak)	N/A	No component was damaged and input fuse shall not blow	N/A	No component was damaged and input fuse shall not blow	N/A
Maximum Inrush Current duration (mS)	N/A	N/A	N/A	N/A	N/A

	Power **
HP ProLiant ML110 G6 Fully Configured	(see **)
Fully Loaded System output Wattage (W)	300W
Fully Loaded System Input Current (A rms)	5A @ 100V, 2.5A @ 200V
Fully Loaded System Thermal (BTU- Hr)	1277BTU
Fully Loaded System VA (Volt-Amp)	400 VA
System Leakage with all power supplies loaded (mA)	3.5mA@110V 3.5mA@220V
System Inrush Current with all power supplies loaded (A)	<150A@240Vac
Power cord requirements	Nema 5-15P to IEC320-C13
	IEC320-C13 to IEC320-C14
	**Power shown is for a fully configured system consisting of (1) CPU, (4) double-sided DIMMs, (4) HDDs, (1) DVD-ROM, (4) PCI cards, and (1) power supply.

Power Cords (13 Cord Sets)	Power Cord Part Number
Country	
Taiwan	393312-001
Japan	139867-005
India	397138-002
Brazil	285052-001
Australia	100661-001
Euro	100614-009
PRC	286496-001
UK	100613-008
US	121565-001
ITL	109197-008

NOTE: To review typical system power ratings use the Active Answers HP Power Advisor which is available via the online tool located at URL: http://www.hp.com/go/hppoweradvisor

To drill down to calculators:
- Click on: "ProLiant Servers"
- Click on the Server of interest. Example: ML110 G6
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

System Unit	**Dimensions** (HxWxD) (with feet)	14.38 x 6.9 x 16.8 in (36.52 x 17.5 x 42.6 cm)	
	Weight (approximate)	Maximum (all hard drives, power supplies, and processors installed)	30.53 lb (13.85 kg)
		Minimum (one hard drive, power supply, and processor installed)	25.13 lb (11.4 kg)
	Input Requirements (per power supply)	Rated Line Voltage	90 to 132 VAC, 180 to 264 VAC
		Rated Input Current	5 A (at 100 VAC), 2.5 A (at 200 VAC)
		Rated Input Frequency	47 to 63 Hz
		Rated Input Power	400 W (at 100 VAC), 400 W (at 200 VAC)
	Power Specifications	To review typical power ratings use the Power Advisor which is available via the online tool located at URL: http://www.hp.com/go/hppoweradvisor	
	Power Supply Output (per power supply)	Rated Steady-State Power	300 W (at 100 VAC), 300 W (at 200 VAC)
		Maximum Peak Power	300 W (at 100 VAC), 300 W (at 200 VAC)
	System Inlet Temperature	Operating	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 304.8 m (1.8°F per every 1000 ft) above sea level to a maximum of 3048 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System may shut down if operating with a fan fault or above 42°C °(107.6°F).
		Non-operating	-35° to 65°C (-31° to 149°F). Maximum rate of change is 20°C/hr (36°F/hr).
	Relative Humidity (non-condensing)	Operating	10% to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
		Non-operating	10% to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
	Altitude	Operating	3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 609 m/min (2000 ft/min).
		Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 609 m/min (2000 ft/min).

	Acoustic Noise	Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).	
		Idle	
		L_{WAd}	4.32 Bels
		L_{pAm}	24.9 dBA
		Operating	
		L_{WAd}	4.41 Bels
		L_{pAm}	25 dBA
		NOTE: The listed sound levels above apply to standard SATA configurations. Additional options may result in increased sound levels.	
	Emissions Classification (EMC)	FCC Rating	Class B
		Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1
		NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.	
HP 160GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Entry 1yr Warranty Hard Drive	458947-B21	Capacity	160,041MB
		Height Maximum drive dimension	1.028 in. (26.1 mm)
		Width	4.00 in (101.6 mm)
		Depth Maximum drive dimension	5.787 in (147.0 mm)
		Interface	Serial ATA
		Transfer Rate (Maximum)	3Gb/s
		Native Command Queuing	Supported
		Seek Time (typical reads, including settling)	Single Track 2.0 ms Average <11 ms Full-Stroke 22.0 ms
		Rotational Speed	7,200 rpm
		Physical Configuration	Bytes/Sector 512 Logical Blocks 312,581,808
		Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)

Technical Specifications

HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Entry 1yr Warranty Hard Drive	571232-B21	**Capacity**	250,059MB	
		Height Maximum drive dimension	1.028 in. (26.1 mm)	
		Width	4.00 in (101.6 mm)	
		Depth Maximum drive dimension	5.787 in (147.0 mm)	
		Interface	Serial ATA	
		Transfer Rate (Maximum)	3Gb/s	
		Native Command Queuing	Supported	
		Seek Time (typical reads, including settling)	Single Track	2.0 ms
			Average	11 ms
			Full-Stroke	21.0 ms
			Rotational Speed	7,200 rpm
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	488,397,168
		Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP Half-Height 16X Max SATA DVD-ROM Optical Drive	**Disk**	Applicable Disk	CD-ROM, CD-XA, CD-DA (Mode 1, Mode 2, Form 1 and 2)
			Photo CD (Single and Multi-session)
			Mixed Mode (Audio and Data combined)
			CD-R, CD-RW, DVD-ROM, DVD+R, DVD+RW
		Capacity	4.7 GB (DVD-5)
			8.54 GB (DVD-9)
	Block Size	DVD Media	2,048 bytes
	Interface	SATA	3Gb/s
	Access Times (typical)	Random	<140 ms
		Full-Stroke	<250 ms
	Data Transfer Rate	Sustained	8100 to 21600 KB/s (6X to 16X)
	Cache Buffer	128 KB	
	Start-up Time (typical)	< 7 seconds	
	Stop Time	< 4 seconds	
	Laser Parameters	Type	Semiconductor Laser GaA1As
		Wave Length	780 ± 25 nm
	Operating Conditions	Temperature	41° to 122° F (5° to 50° C)
		Humidity	10% to 90%
	Dimensions	(HxWxD, maximum)	1.7 x 5.85 x 8.11 in (42.9 x 150 x 195 mm)
		Weight	2.64 lb (1.2 kg)

Embedded NC107i PCIe Gigabit Server Adapter (Embedded)	Network Interface	Integrated 10/100/1000BASE-T Transceiver Combines a triple-speed IEEE 802.3TM - Compliant Media Access Controller (MAC) with a triple-speed Ethernet transceiver.
	Data Transfer Method	Compliant to x1 PCIe Specification
	Controller	BCM5723
	Network Transfer Rate	10Base-T (Half-Duplex) 10 Mb/s 10Base-T (Full-Duplex) 20 Mb/s 100Base-TX (Half-Duplex) 100 Mb/s 100Base-TX (Full-Duplex) 200 Mb/s 1000Base-TX (Half and Full-Duplex) 2000Mb/s
	Connector	RJ-45 connector
	Cable Support	Performs all the physical layer functions for 10BASE-T, 100BASE-T, and 1000BASE-T Ethernet on standard Category 5 UTP

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.